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Preliminary Engineering Report  
for a  
Supplemental Records Storage Facility





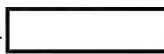
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I. Scope:

A requirement exists for a secured records storage facility for storing supplemental classified publications. An area of 10,000 square feet with a ceiling height of approximately 14 feet to accommodate stack shelving is required.

The planned operation is the warehousing of bulk publications. This operation would require 1 or 2 people to sort, store, retrieve, and assemble requested publications for weekly transportation between  and the primary Records Center. Final distribution would be handled by the Records Center. No single publication is intended to be stored longer than six years. Classified waste would be transported to the Records Center for destruction.

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In an effort to locate such a site, a team headed   Records Administration Officer, visited  on 3 and 4 September 1969 to outline and to discuss this requirement with the Station's officials, and to survey various buildings and structures. Of the sites surveyed, four were considered seriously enough to request a preliminary examination of the problem of alteration.

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The sites considered were:

1. Concrete Tanks, Abandoned Filtration Plant
2. Warehouse Annex
3. Field Activities Building
4. Basement, Administration Building

This preliminary engineering report will concern itself with the specific ideas and requirements outlined by the survey team as they relate to the alteration of each site. Preliminary cost estimates are included.

## II. Requirements:

### A. Storage Characteristics

Area: 10,000 square feet

Height: 14 feet

Lighting: sufficient for stack identification as in the primary Records Center

Heating, ventilating, and air conditioning: normal temperature level for human comfort. Humidity level for preserving stored paper for up to six years.

Other: loading dock with hydraulic leveling platform, restroom, processing area, fire alarm

### B. Security Characteristics

Construction: vault construction using either 8-inch reinforced concrete or 1/4-inch thick, continuously welded, plate steel of a high strength variety specified in ASTM A 514. Class 5 vault doors for access.

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Alarm: Standard electronic detection devices remotely monitored.

No television surveillance.

### III. Discussion:

Each of the four sites is discussed individually, indicating the existing condition and outlining the alterations needed to accommodate classified supplemental storage.

#### A. Concrete Tanks, Abandoned Filtration Plant

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The five concrete tanks are approximately 14 feet deep with an open floor area of approximately 12,500 square feet. The reinforced concrete walls vary in thickness from 22 inches at the bottom to 12 inches at the top. The concrete appears to be in excellent condition. Construction of a concrete roof; a floor leveling slab; and a small utility and administrative addition; and incorporating the other requirements is estimated to cost approximately \$383,000. A more detailed description of the work and the cost is included as Attachment 1.

#### B. Warehouse Annex

The warehouse annex was originally constructed by [REDACTED] as a cold storage facility. It is presently used for storing building supplies and training aids. Enclosing an area of approximately 10,800 square feet, the building has a wood truss and column structure, cinder block walls and a concrete floor. The existing clear height between the floor

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and the bottom of the truss is approximately 13 1/2 feet. To secure the warehouse a steel lining was estimated in lieu of concrete to keep additional weight to a minimum. Those portions of the wood columns beneath the truss would be replaced with steel columns. A steel structural system then would be attached to the columns to support the 1/4-inch steel plate lining. The effect is to construct a building within a building at an estimated cost of \$496,200. The clear height would be reduced to approximately 11 feet. A cost estimate is included as Attachment 2.

C. Field Activities Building

The Field Activities Building is a pre-engineered steel frame structure with a peaked roof, brick veneer walls, and a concrete floor.

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To secure this facility, it was assumed that a steel lining could be attached to the existing structural system. If this structure will not support the additional weight of the steel, then a "second" structural support system, as required in the warehouse annex, would be needed, increasing the cost. The clear height available varies from 11 1/2 feet along the lower walls to about 19 feet in the center. Areas around steel frames are further restricted since the frames will protrude within the steel lining. While

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the gross building area is approximately 11,920 square feet, only between 5,650 and 7,380 square feet, depending upon shelving arrangement, would have a clear height of at least 14 feet. The estimated cost for the required construction is \$405,810. See Attachment 3.

D. Basement, Administration Building

The basement of the Administration Building has concrete walls, ceiling, and floor. Using drywall and masonry partitions and suspended ceilings, the easterly portion is divided into four classrooms and a fallout shelter. The fallout shelter additionally functions as a museum. To secure this facility, it was assumed that the concrete walls, floors, and ceilings would meet security requirements and that only an interior end wall and a stairwell would require steel linings. The installation of three single and one double vault doors and the installation of a security alarm system would complete the securing. The interior partitions, suspended ceiling, and lighting would be removed. The ceilings, walls, and floors would be patched and painted. The installation of stack-style lighting fixtures, and the modification of the heating, ventilating, and air conditioning system, would complete the work inside of the secured area. A building addition would be required to house a freight elevator

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and to cover a loading dock at the rear of the building. The elevator would accommodate the palletized documents for quick handling between the secured area and the truck. The loading dock would have a hydraulic leveling platform. The secured area would contain approximately 8,860 square feet and have a ceiling height of 10 feet 2 inches. The estimated cost for the required construction is \$369,200. See Attachment 4.

IV. Conclusion:

- A. Of the four sites, the renovation of the concrete tanks appears to be the best solution. The required ceiling height is available while the area is in excess of the 10,000 square foot requirement by 2,500 square feet.
- B. The Field Activities Building is the second choice. However, this facility, when renovated, will not meet the total storage requirements of 10,000 square feet at a ceiling height of 14 feet. More research concerning the strength of the structural frame would be required to accurately calculate a renovation cost.
- C. The Warehouse Annex has an acceptable gross area in excess of the requirement by 800 square feet but the ceiling height would be too low at 11 feet. Even if the ceiling height requirement were changed, the securing for classified storage of this facility is not recommended.
- D. The Basement, Administration Building, has neither the required area nor the ceiling height and, therefore, would not satisfy the basic requirements.

Scope of Work

CONVERT CONCRETE TANKS TO SECURE STORAGE

1. General

This project consists of converting five above-ground rectangular concrete water tanks to a secure storage area by removing interior concrete and masonry, adding a concrete roof, and installing lighting, air conditioning, fire doors, vault doors, and security and fire alarms. In addition, a small loading dock with a hydraulic ramp and a small office with comfort facilities and utility room are required.

2. Tank Conversion

a. Existing

(1) Four of the concrete tanks are approximately 30 feet by 89 feet with outside walls tapering from 22 inches thick at the base to 12 inches thick at the top. The tanks are 14 feet deep with floors sloped to drainage channels. There are two channels and two long-stemmed valves per tank. A concrete catwalk runs across the center of each tank, giving access and support for the valve stems. The ends of each tank contain a concrete partition wall with miscellaneous openings.

(2) The fifth tank has exterior walls identical to the other four tanks, is approximately 21 feet by 83 feet, and contains four longitudinal rows of brick masonry. The floor is flat while one end wall contains miscellaneous openings.

b. Demolition

(1) Remove valves, concrete end partitions, and catwalk; and cut openings for fire and security doors in four larger tanks.

(2) Remove brick masonry and cut openings for security doors in smaller tank.

c. Construction

- (1) Construct a ribbed concrete roof slab with a minimum concrete thickness of 8 inches; cover with 2 inches of insulation and a 5-ply builtup roof.
- (2) Level the tank floors with a concrete slab no thinner than 4 inches; finish with vinyl asbestos tile. Install drains where required using existing drain pipes.
- (3) Repair walls with mortar and concrete. Install double fire doors between each tank and also vault doors in perimeter wall. Finish walls with filler and paint.
- (4) Furnish and install security alarm system.
- (5) Furnish and install foam fire protection and alarm system.
- (6) Construct a loading dock with a hydraulic leveling ramp, a small office, comfort facilities, and a utility room outside of the secured area.
- (7) Furnish and install a heating and air conditioning system capable of handling 5 people at normal human comfort levels. Tight control of temperature and humidity normally associated with archival-type records is not required as no document will be kept longer than six years in this facility.
- (8) Furnish and install lighting consistent with the shelving arrangement. Closed circuit television for security monitoring is not included, reducing the lighting level required by such a system.
- (9) Grade and landscape for drainage as required.



CONVERT CONCRETE TANKS TO SECURE STORAGE

Cost Estimate Summary

1. <u>Roof</u>	
8" minimum thickness ribbed one-way slab with 2" insulation and 5-ply builtup roof	\$ 39,000
2. <u>Floor</u>	
4" minimum thickness leveling slab with 1/8" vinyl asbestos tile	12,500
3. <u>Demolition</u>	
Misc. concrete and masonry	6,200
4. <u>Wall</u>	
Patching; fire doors; vault doors	22,000
5. <u>Exterior</u>	
Brickwork; grading; vestibule	11,000
6. <u>Addition</u>	
Office; loading dock, restroom, utility room	20,000
7. <u>Security Alarm</u>	30,000
8. <u>Fire Protection and Alarm</u>	5,000
9. <u>Heating, vent., and air conditioning</u>	40,000
10. <u>Electrical</u>	30,000
	<u>\$215,700</u>
Overhead, profit 30%	64,710
	<u>\$280,410</u>
Contingency 10%	28,040
	<u>\$308,450</u>
	<u>46,300</u>
	<u>\$354,750</u>
Construction inflation to Summer 1970 8%	28,400
	<u>\$383,150</u>

CONVERT WAREHOUSE ANNEX TO SECURE STORAGE

Cost Estimate Summary

1. <u>Steel</u>	
1/4" Lining, Structural Support and Paint	\$133,000
2. <u>Vault Doors</u>	11,000
3. <u>Floor</u>	
Concrete Repair; Vinyl Asbestos Tile	15,400
4. <u>Office, Restroom, Utility Room</u>	10,000
5. <u>Security Alarm</u>	30,000
6. <u>Fire Alarm</u>	5,000
7. <u>Electrical</u>	30,000
8. <u>Heat, Vent., and Air Conditioning</u>	45,000
	\$279,400
Overhead, Profit 30%	83,800
	\$363,200
Contingency 10%	36,300
	\$399,500
	59,900
	\$459,400
Construction Inflation to Summer 1970 8%	36,800
	<u>\$496,200</u>

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CONVERT FIELD ACTIVITIES BUILDING TO SECURE STORAGE

Cost Estimate Summary

1. <u>Steel</u>		
1/4" Lining, Paint		\$108,400
2. <u>Vault Doors</u>		13,500
3. <u>Loading Dock</u>		
Concrete with Hydraulic Ramp		10,000
4. <u>Demolition</u>		
Masonry, Sheet Rock, and Acoustical Partitions with Doors		5,600
5. <u>Electrical</u>		
Remove, Modify, and Replace		30,000
6. <u>Heating, Vent., and Air Conditioning</u>		20,000
7. <u>Interior Modifications</u>		6,000
8. <u>Security Alarm</u>		30,000
9. <u>Fire Alarm</u>		5,000
		<u>\$228,500</u>
Overhead, Profit	30%	<u>68,550</u>
		\$297,050
Contingency	10%	<u>29,700</u>
		\$326,750
		<u>49,000</u>
		\$375,750
Construction Inflation to Summer 1970	8%	<u>30,060</u>
		<u>\$405,810</u>

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CONVERT ADMINISTRATION BUILDING BASEMENT  
TO SECURE STORAGE

Cost Estimate Summary

1. <u>Demolition</u>	
Removal of partitions, hung ceiling	\$ 6,860
2. <u>Walls</u>	58,070
Steel lining, Vault Doors, Masonry Block Wall	
3. <u>Elevator</u>	57,856
Excavating, walls, elevator Cost & Inst., Above Ground Enclosure, Loading Dock	
4. <u>Security Alarm System</u>	30,000
5. <u>Fire Protection &amp; Alarm</u>	
Remove & Reinstall	3,000
6. <u>Heating, Vent &amp; Air Conditioning</u>	31,000
7. <u>Electrical</u>	
Modifications & New Fixtures	15,000
	\$201,786
Overhead & profit 30%	60,535
	\$262,321
Contingency 10%	26,232
	\$288,553
	43,283
	\$341,837
Cost inflation to	
Summer 1970 8%	27,347
	\$369,184

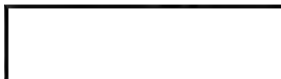
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Addendum No. 1

Preliminary Engineering Report

for a

Supplemental Records Storage Facility



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I. Scope:


The original report evaluated the scopes and estimated the costs of altering four existing facilities to meet the requirements of a secured area for the warehousing of classified publications. This addendum constitutes the identical treatment of a fifth area and the reduction in scope of a previously evaluated facility. The new area involves constructing a secure facility between the Warehouse and the Warehouse Annex. The previously evaluated Field Activities Building is reconsidered using two-thirds of the floor area instead of the entire facility.

II. Discussion:

A. Convert Storage Area between Warehouse and Warehouse Annex to Secure Storage.

The original cold storage Warehouse



 consists of three facilities: The Warehouse, the Warehouse Annex, and the paved Open Storage area separating the Warehouse from the Annex. Constructing a secure storage facility at the site of the paved open storage area would require the demolition of a steel frame lumber and pipe storage shed, the removal of front and rear short masonry walls and

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foundations, and the removal of pavement to accommodate new column footings. A structure consisting of concrete columns, two-way roof slab, and front and rear wall would be constructed. The walls common with the Warehouse and the Warehouse Annex would be steel-lined. The inclusion within the structure of a utility room and rest room would be required. Heating, ventilating, air conditioning, lighting, and fire and security alarms would complete the requirements. The new building would have a ceiling height over 14 feet with a gross area of approximately 12,500 square feet. The estimated cost is \$527,500. See Attachment 5.

B. Convert Part of Field Activities Building to Secure Storage.

Conversion of the entire Field Activities Building has been evaluated. This project is similar to the prior Field Activities Building evaluation, differing only in area size. The conversion to secure storage would include the back of the Facility as far forward as the utility room. The secured gross area would be approximately 7,850 square feet with a clear height varying from approximately 11 1/2 feet at the side walls to approximately 19 feet at the peaked center. The Estimated Cost is \$335,900. See Attachment 6.

III. Conclusion:

A. The construction of the new building between the Warehouse and the Warehouse Annex would satisfy the requirement of 10,000 square feet of area with a 14-foot high ceiling clearance for storing 20,000 cubic feet of records. If, after preliminary review, this site is chosen, a soil investigation should be made to insure the absence of an unknown foundation problem.

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B. The conversion of part of the Field Activities Building will not satisfy the requirements of either area or ceiling height as expressed by  Agency Records Administration Officer.

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CONVERT STORAGE AREA between WAREHOUSE ANNEX  
and WAREHOUSE to SECURE STORAGE

Cost Est. Summary

1. <u>Demolition</u>	\$ 15,760
Removal of Lumber Shed, Front and rear footings and Foundation, Portions of Slab where Columns required	
2. <u>Building Construction</u>	\$120,360
Columns, Footings, Walls, Roof, Floor Leveler Slab, Painting	
3. <u>Steel</u>	\$ 25,980
1/4" Lining	
4. <u>Vault Doors</u>	\$ 8,500
5. <u>Loading Dock</u>	\$ 12,000
Concrete w/Hydraulic Ramp	
6. <u>Heating, Vent. &amp; Air Conditioning</u>	\$ 64,400
7. <u>Lighting, Electrical</u>	\$ 15,000
8. <u>Security Alarm</u>	\$ 30,000
9. <u>Fire Alarm</u>	\$ 5,000
	\$297,000
Overhead and Profit 30%	89,100
	\$386,100
Contingency 10%	38,610
	\$424,710
	63,706
	\$488,416
Cost Inflation to Summer 1970 8%	39,073
	<u>\$527,489</u>



CONVERT APPROXIMATELY 2/3 OF FIELD ACTIVITIES BUILDING  
TO SECURE STORAGE

Cost Estimate Summary

1. <u>Steel</u>		\$ 86,423
1/4" Lining, Paint		
2. <u>Vault Doors</u>		8,500
3. <u>Loading Dock</u>		10,000
Concrete with Hydraulic Ramp		
4. <u>Demolition</u>		5,200
Masonry, Sheet Rock, Partitions with Doors, Furred Ceiling, and Removal of one Restroom		
5. <u>Electrical</u>		
Remove, Modify, and Replace		23,000
6. <u>Heating, Vent., and Air Conditioning</u>		20,000
7. <u>Interior Modifications</u>		1,000
New Door in Parachute Storage Rack		
8. <u>Security Alarm</u>		30,000
9. <u>Fire Alarm</u>		5,000
		<u>\$189,123</u>
Overhead & Profit	30%	<u>56,737</u>
		\$245,860
Contingency	10%	<u>24,586</u>
		<u>\$270,446</u>
		<u>40,567</u>
		\$311,013
Cost Inflation to Summer 1970	8%	<u>24,881</u>
		<u>\$335,894</u>